

# TROOPS RETURN WITH ALARMING RATES OF HEARING LOSS

BY THERESA Y. SCHULZ, PH.D.

**W**ar is obviously a highly hazardous endeavor for military personnel. And although weapons that pose the greatest hazards change over time, one thing remains the same: war is dangerously loud.

The headline of this article undoubtedly applied to any number of past conflicts. It certainly did when hundreds of thousands of Americans returned from World War II. In fact, their need for hearing help contributed to the emergence of audiology as a new field of healthcare. It should be a matter of great national concern, however, that the current situation is so severe despite six decades of advances in methods of hearing conservation.

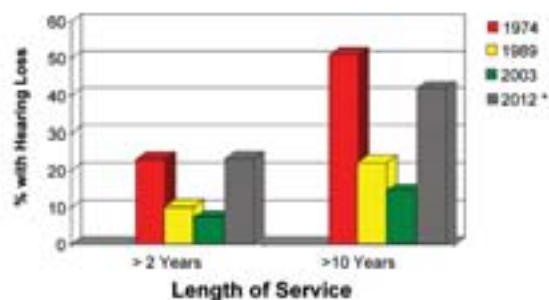
Noise-induced hearing loss is on the rise among U.S. servicemen and women throughout the military as they transition from being stationed primarily on military bases to a variety of posts in the field (the Army alone has almost 370,000 soldiers deployed in 120 countries). Hazardous noise exposure is the greatest that it has been for over 30 years due to the scope of current operations, extended training and an increase in number of combat forces.

Occupational exposure is most extreme during tactical operations and on the battlefield where hearing can become permanently disabled in an instant. Acoustic trauma – exposure to very loud noises – poses the

greatest danger to hearing for troops currently serving in Operation Enduring Freedom in Afghanistan and Operation Iraqi Freedom. Bomb explosions are a frequent occurrence and major hazard.

Between March 2003 and July 2004, 736 American soldiers in the Iraq and Afghan

**Hearing Loss in Combat Arms  
Past Trends and Future Projections**



\* Projection based on current trends

theaters sustained blast-related injuries. This type of injury accounts for 47 percent of all “wounded in action” evacuations from Iraq and 31.5 percent of those from Afghanistan. Some are treated at Landstuhl Regional Medical Center in Germany while the more severe cases are evacuated to the U.S.

In the same time period, Walter Reed Army Medical Center in Washington, D.C., treated over 600 soldiers for blast-related injuries. Of those, 123 had traumatic blast injuries to the ear and an additional 110 experienced hearing loss.

Hearing loss is the fourth leading reason for medical referral for combatants routinely returning from their deployments. From March 2004 to date, of the more than 5,000 post-deploying soldiers from Iraq and Afghanistan who were referred to audiologists, 1,550 reported exposure to acute acoustic blast trauma. Of those, a staggering 72 percent have resulting hearing loss.

Meanwhile, among all post-deploying personnel who received hearing evaluations, 28 percent have some hearing loss.

Each branch of the service has similar criteria to diagnose hearing loss: more than a mild loss in sound frequencies common to speech and more than a moderate loss in high frequencies. Service members with diagnosed hearing loss are assessed on a case-to-case basis by a medical evaluation board to decide whether continuing duty in the individual’s current job is possible or if reclassification to a different job or separation from service is necessary.

When soldiers are discharged, the Department of Veterans Administration (VA) remains available to them for audiology services including evaluation, rehabilitation (hearing aids, tinnitus maskers, etc.) and compensation.

## Challenges to Hearing Conservation

The military has increased support and emphasis on hearing conservation for deployed service members by establishing hearing conservation test sites in Iraq, Kuwait, Kosovo, Bosnia and other countries

where they currently serve. At these sites, troops receive hearing protection, training, counseling and hearing tests from staff audiologists and support technicians. In addition, over 372,000 pairs of combat arms earplugs have been issued as standard equipment to combatants in the last year.

The payoff? In many incidents where troops wearing earplugs were exposed to acute acoustic trauma from bombs, mortar attacks, rocket propelled grenades, etc., they did not sustain ear injuries. In similar situations, soldiers without earplugs did suffer ear injuries, including ruptured eardrums, hearing loss and tinnitus.

Unfortunately, the resources required to accomplish the hearing conservation mission throughout the armed forces are diminishing just as the problem worsens. Under Department of Defense (DoD) edicts, the Air Force is slated to eliminate six active duty audiology positions within the next few years.

Since 1990, the Army has reduced its number of active duty audiologists from 73 to 25 and another six positions are to be eliminated within the next three years. Of these 48 positions no longer filled by Army personnel, only 26 have been filled with civilian audiologists and only one of them is

assigned to the hearing conservation mission. The 22 unfilled positions create a potentially dangerous shortfall in provision of services that could help troops protect their hearing.

These cuts come at a time when compliance with hearing conservation requirements across the military services is already poor. Sites without a military audiologist have limited hearing conservation services or none at all. In the Army, for example, only 46 percent of those soldiers who require an annual hearing evaluation – because they are exposed to hazardous noise as a part of their routine duties – received one last year. Additionally, hearing conservation services at basic training sites are limited or nonexistent despite an official DoD requirement to provide them.

To their credit, the remaining active duty audiologists are working to extend their influence by partnering with other preventive



**Artillery and aircraft pose two common hearing hazards during military service. ABOVE: Marines fire an M198 Medium Howitzer near Camp Fallujah, Iraq. BELOW: Crewman signals taxi instructions to a Navy E-2C Hawkeye aboard the USS George Washington.**

PHOTOS COURTESY OF DEPARTMENT OF DEFENSE

medicine and occupational health professionals within the armed forces. The challenges to establishing an emphasis on hearing loss prevention are significant and are compounded by a dwindling number of hearing healthcare professionals providing support and services.

### Future Ramifications

The long-term consequences of the present assault by hazardous noise on the U.S. armed forces are sure to be significant, certainly to

the individuals who experience impaired hearing, tinnitus, etc., as well as to our country.

The effects of recent military service on governmental support services are already apparent. For the past three years, following 14 consecutive years of decline, the VA has shown steady increases in disability claims from Army veterans for service-connected hearing loss. Claims from Marine veterans, which have steadily risen since 1983, increased dramatically over the past three years.

If the time lag between when members of today's military experience hearing loss and when they file for disability from the VA remains consistent with recent trends, the peak in claims from current servicemen and women will not be apparent for another 10 to 20 years.

What are the solutions to the growing hearing crisis? While acute acoustic trauma cannot always be anticipated, we have the knowledge, experience and technology available to protect American troops against

## DUTY TO SERVE, OPPORTUNITY TO LISTEN

BY CAPT. SARA M. TEUFERT-AUTREY, USAF



When I arrived in August 2002 at Landstuhl Regional Medical Center, a U.S. Army hospital in Germany, to serve as an Air Force audiologist, I was excited and nervous. I was nervous because I was not as familiar with the rules and regulations of the Army as those of the Air Force. In only 10 days, though, I was comfortable with how the Ear, Nose and Throat (ENT) Clinic ran and was seeing patients.

It was then a typical clinic for a military environment, providing services to fulfill hearing conservation and diagnostic missions, and I spent my days doing routine exams, advanced testing and hearing aid fittings. I also coordinated the newborn hearing screening program and evaluated hearing conservation data.

Things changed abruptly on March 20, 2003, with the launch of the war in Iraq. My opportunity to provide care to soldiers, airmen, seamen and Marines coming from the field has become a life-transforming experience. Being involved in this type of service is the reason I joined the military and why I am so proud to put on my uniform every morning at 0500 hours.

When Commander in Chief Bush declared the Global War on Terrorism, Landstuhl became the first stop for many wounded war-fighters and has seen an average of 1,000 a month from Operation Enduring Freedom (OEF) in Afghanistan and Operation Iraqi Freedom (OIF). The entire hospital has taken on a whole new mission: to provide the injured appropriate medical care and return them to the desert or to move them on to major military hospitals in the U.S. within two weeks.

Nearly all injured combatants have been exposed to hazardous noise but for many with life-threatening injuries, a hearing evaluation has to wait until they reach hospitals stateside. Whenever possible, though, the goal is to perform a hearing exam on everyone referred specifically to the ENT Clinic as well as anyone who has been exposed to blasts or explosions and is well enough to complete an evaluation.

Between March 20, 2003, and May 25, 2004, the ENT clinic has treated 564 troops from OEF and OIF. Among them: 327 experienced trauma from sudden blast exposures from mortar

attacks, rocket propelled grenades and improvised explosive devices, resulting in perforated eardrums for 104 individuals and at least a mild hearing loss and/or tinnitus for 207; 125 presented with a hearing loss, the majority with a pre-existing loss that had worsened since deployment; 29 had ear infections and other conditions affecting conductive hearing; 22 referred for a complete balance function evaluation; and 61 attempted to feign a hearing loss, likely due to combat-related stress.

Our patients often come to us with many other injuries. Some are missing limbs, have shrapnel in all parts of their bodies and are in an emotional state that we cannot even imagine. Most spend an entire day or more traveling on a military aircraft to reach Landstuhl and have not slept in days nor had a shower or food other than a military meal-ready-to-eat (MRE) in months. Amazingly, though, we find most maintain a determined attitude of selfless service and are eager to return to their posts.

The most rewarding part of my job is having the opportunity to listen to these dedicated members of the American military. They all have interesting stories and are desperate for someone to listen to their side of the war, to feel their emotions and take the time to honor what they have done. Throughout the hours we spend in the sound booth while we listen to them, fresh from the battlefield, and allow them to shed tears as they release emotions that have been building for as long as 14 months, we realize that we are working with heroes.

As long as the war continues, these combatants can be assured that they have premium healthcare waiting for them at a hospital in Germany, including a team that is dedicated to treating and preventing the hearing loss that is so prevalent among their ranks. There is no greater feeling than to be right here right now where I can help – and listen to – America's sons and daughters serving abroad with honor, courage and dignity.

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noise-induced hearing loss. What is lacking are DoD resources sufficient to provide adequate hearing conservation services to our military forces.

A remedy must be found because our dedicated protectors deserve the best avail-

able health protection in return. ■

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Hearing Conservation Association. Recently retired from a 21-year career as an Air Force audiologist, she lives in Tennessee with her husband and three cats and spends her spare time birdwatching and target shooting, managing never to confuse the two.

## FYI

## Hearing Health

An investigation is underway to assess the association of military service with noise-induced hearing loss and tinnitus. Mandated by the Veteran's Benefits Improvements Act of 2002 and considered long overdue by many, the two-year study is being conducted by the Institute of Medicine and the U.S. Department of Veterans Affairs. By reviewing records of veterans from each branch of the armed forces from WWII to the present, a joint committee seeks to measure compliance with regulations regarding audiometric testing, identify sources of potentially damaging noise during active duty,

discover levels of exposure necessary to cause damage and determine if the effects can be of delayed onset. An expected outcome: identification of certain military skills and activities that are "presumed" to be associated with hearing loss and tinnitus.

The committee's conclusions, due in September 2005, may mean additional support for many veterans who have previously been unable to establish a service-connection to their hearing loss and/or tinnitus. For more, visit [www.iom.edu](http://www.iom.edu) and follow the link to Military & Veterans.